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ABSTRACT

This resource guide is designed to provide a quick reference for professionals (employment recruiters and counselors in vocational rehabilitation, disability services, and career services), who work with college students with disabilities, in incorporating assistive technology into planning for postsecondary education and employment. First, types of assistive technology and assistive technology evaluations are reviewed. Steps for using the guide are described and assistive technology categories are outlined, including adaptive computer applications, aids for communication, aids for daily living, environmental control systems, home/work site modifications, prosthetics and orthotics, seating and positioning, wheelchairs/mobility aids, and vehicle modifications. The benefits of using assistive technology are also identified. The next part of the guide is divided into sections on possible disability deficits and their technological solutions. Disability categories discussed include blindness/visual impairments, deafness/hearing impairments, learning disabilities and attention deficit disorders, orthopedic/mobility impairments, speech and language disorders, and other disabilities. Each disability is described, a chart illustrating possible deficits and possible technology solutions is provided, and a case study is presented along with the assistive technology solution. The guide also includes lists of different types of specialists, funding resources, electronic mail resources, national organizations, and state resources. A check list of comprehensive career planning and a glossary of terms is also included. (CR)

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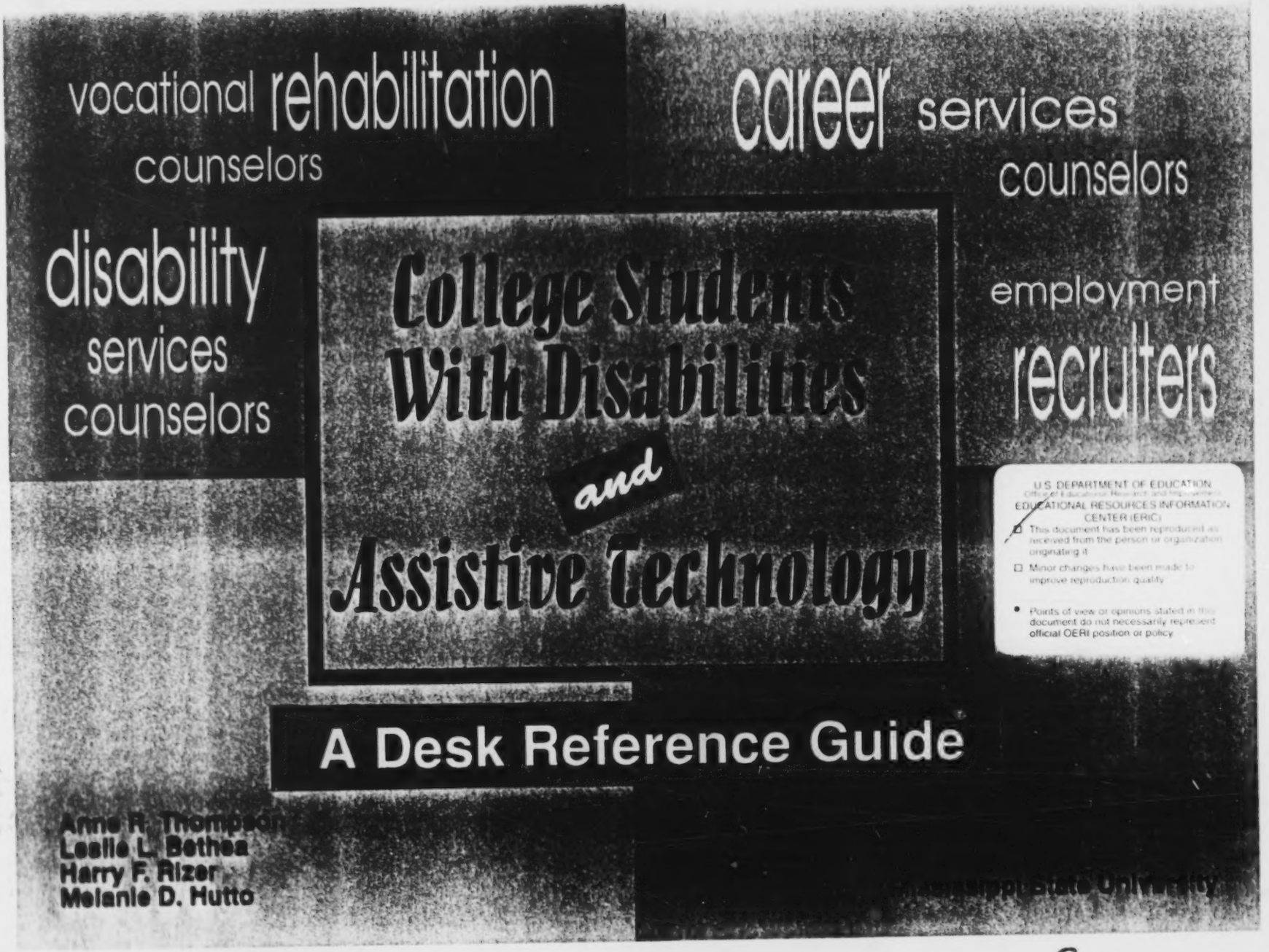
vocational rehabilitation counselors
career services counselors
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employment recruiters
College Students With Disabilities
and
Assistive Technology
A Desk Reference Guide
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College Students with Disabilities and Assistive Technology: A Desk Reference Guide

Spring 1997

Incorporating Assistive Technology into Planning for Postsecondary Education and Employment

Designed for:
Vocational Rehabilitation Counselors
Disability Services Counselors
Career Services Counselors
Employment Recruiters

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College Students With Disabilities and Assistive Technology: A Desk Reference Guide

This resource guide is designed to provide a quick reference for professionals who work with college students with disabilities in postsecondary education and employment. The guide suggests ways that assistive technology may improve and expand the academic, career, and employment opportunities of students with disabilities.

What is assistive technology?

Assistive technology is any device or process that assists a person with a disability to do something that could otherwise be difficult or impossible to accomplish.

What is an assistive technology evaluation?

An assistive technology evaluation is the process of determining which device best matches the person's needs and preferences.

Who is this guide designed to assist?

Vocational Rehabilitation Counselors
who refer students for postsecondary training, promote transition to employment, and consult with potential employers.

Disability Services Counselors
who promote campus life and academic success for students with disabilities.

Career Services Counselors
who promote transition from school to employment and facilitate student summer employment.

Employment Recruiters
who recruit college graduates for employment

How to Use This Guide: Steps To Follow When Working with a Student or a Potential Employee

Step 1: With the student, determine the abilities and functional limitations.
Example: Sue has a spinal cord injury and uses a wheelchair for mobility but she also has limited use of her fingers for fine motor skills. She is knowledgeable in basic computer word processing and can point her finger and type with one hand. Using this process, Sue finds that she fatigues easily.

Step 2: Determine what the disability prevents or impairs the student from doing that he/she would like to do.
Example: Sue types too slowly and wants to increase her speed and ability to work without fatigue. She would also like to improve her accuracy on the computer as she sometimes strikes extra keys.

Step 3: In the Guide, refer the student to the relevant type of disability. Check the categories of skill deficits and the possible assistive technology solutions.
Example: Sue might look under Orthopedic/Mobility Impairments (O/MI) and investigate word prediction programs, modification of keyboard control systems, and alternate input devices. Sue can use the Definition of Terms section to learn more about words that are unfamiliar.

Step 4: Refer the student to the cross-coded specialists listed under the case study for each type of disability. Note the questions in the boxes and encourage the student to contact the specialists that are cross coded.
Example: Sue might note the codes for specialists in the case study and refer to the Specialists section. She may need to contact an assistive technology specialist (ATS) and/ or an occupational therapist (OT). She may need to talk to her vocational rehabilitation counselor (VR) for more information and/or referral to the specialists.

Step 5: Provide the student with appropriate resources from the list under Resources or the state offices listed under State Tech Act .
Example: Sue might search the Resources section to contact the State Vocational Rehabilitation Office, RESNA, or AHEAD for more information. She may want to join a LISTSERV discussion group such as EASI for answers to her specific technology questions. Her State Tech Act Office may be able to provide assistive technology devices on loan for a trial period.

Step 6: Review the Check List for Career Planning with the student.
Example: Sue can review the Career Checklist to determine if she has completed all the steps important to successful transition to employment. From the checklist, she may find that she does not know the entry level requirements of her career choice and will need to conduct an informational interview with someone who is employed in a similar job.

Assistive Technology Categories

Adaptive computer applications
input and output devices (voice, braille), alternate access aids (headsticks, light pointers), large-print screens, modified or alternate keyboards, switches, special software that enable persons with physical, sensory, or cognitive disorders to use a computer

Aids for communication
hearing aids, TDDs, and augmentative and alternative communication devices that provide a means for expressive and receptive communication for persons with sensory, communication, or cognitive disorders

Aids for daily living
self-help aids for use in activities such as eating, bathing, cooking, dressing, toileting, and home maintenance for persons with physical, sensory, or cognitive disorders

Environmental control systems
primarily electronic systems that enable persons with physical or sensory disorders to control various appliances, electronic aids, and security systems in their room, home, or other surroundings

Home/work site modifications
structural adaptations or fabrications in the home, worksite, or other area (ramps, lifts, bathroom changes, visual alerting systems) that remove or reduce physical barriers for persons with physical, sensory, or cognitive disorders

Prosthetics and orthotics
replacement, substitution, or augmentation of missing or malfunctioning body parts with artificial limbs or other orthotic aids (splints, braces) for persons with physical disorders

Seating and positioning
accommodations to a wheelchair or other seating system to provide greater body stability, trunk/head support and an upright posture, and reduction of pressure on the skin surface (cushions, contour seats, lumbar) for persons with mobility impairments

Wheelchairs/mobility aids
manual and electric wheelchairs, mobile bases for custom chairs, walkers, three-wheel scooters, and other utility vehicles for increasing personal mobility

Vehicle modifications
adaptive driving aids, hand controls, wheelchair and other lifts, modified vans, or other motor vehicles used for personal transportation for persons with physical disorders

Adapted from: The Provision of Assistive Technology in Rehabilitation (p. 109) by Seventeenth Institute on Rehabilitation Issues, 1990, Fayetteville: Arkansas Research and Training Center in Vocational Rehabilitation

Assistive technology is a process as much as a product.

Points for Consideration of Technology Options

Service providers who work with college students with disabilities need awareness of assistive technology aids and devices that will improve the student's academic success and career opportunities, and increase the candidate's qualifications for employment.

Vocational Rehabilitation Counselor Assistive technology may: • advance considerations for postsecondary education • increase career opportunities • increase student independence • resolve transportation issues • accomplish activities of daily living	**Disability Services Counselor** Assistive technology may: • advance academic standing • increase student independence • further time-management skills • allow equal access to the campus environment • increase participation in classroom activities
Career Services Counselor Assistive technology may: • expand choice of majors • increase career opportunities • increase part-time job opportunities • improve job search skills	**Employment Recruiter** Assistive technology may: • improve opportunities to qualify for entry level employment • enable to perform essential job functions • allow equal access to the workplace

Assistive technology considerations should center on the needs of the individual.
What does the disability prevent or impair the student from doing?

Blindness/Visual Impairments

Over 4.3 million Americans have some type of visual impairment. Visual impairments include blindness and other disorders that may affect the central vision acuity, the field of vision, color perception, or binocular visual function. The American Medical Association defines legal blindness as visual acuity not exceeding 20/200 in the better eye with correction, or a limit in the field of vision that is less than a 20 degree angle (tunnel vision). Legal blindness may be caused by tumors, infections, injuries, retrolental fibroplasia, cataracts, glaucoma, diabetes, vascular impairments, or myopia. The resulting functional limitations will vary widely, as will the assistive technology and mobility aids recommended. Some students may not require special mobility assistance; some may choose a sighted guide; others may use a white cane. Still others may choose to use a dog guide, which (legally) may accompany the owner anywhere. Although assistive technology prescriptions are highly individualized for visual impairments, general solution categories are presented as a beginning discussion point.

Possible Deficits	→	**Possible Technology Solution**
Increased sensitivity to glare		Glare reducing screen Darkened room or work station Reversed polarity (white letters; black screen) Color transparencies
Inability to see small text and graphics		Optical aids • magnifying glasses • small hand held telescopes Screen magnification overlays Large monitor (17" or larger) Screen reading program with speech synthesizer and headphones Closed circuit television (CCTV) Large print software

Possible Deficits	→	Possible Technology Solution
Blind, with no light perception		Computer with large hard drive and large capacity memory banks Books on audio tape Brailled documents/books Screen reader with speech synthesizer and headphones Scanner with optical character recognition (OCR) Refreshable braille displays Braille translating software, braille printers Braille notetakers Tape recorder with indexing capability
Mobility that ensures safe travel		Wide aisles without obstacles Long telescoping canes, laser canes Guide dogs Electronic travel aids Brailled signage Tactile building and floor markings Audible signals, tones Tactile maps Handheld telescopes
Needs of daily living		Clocks, calculators, scales, etc. with speech output Home medical aids with digitized speech output Special controls for appliances that have large print or have tactual markings Braille-embossed labels for marking colors, sizes of clothing Large print and braille telephone book and calendars Large print checks/check books Writing guides for checks, application forms, and other signature needs

Case Study of a Student With a Visual Impairment

Capitalized initials in parenthesis refer to Specialists (page 27)
who may provide technology-related information, referrals, and/or sources of devices and equipment

Bill is a senior in business who has a central vision loss. For the resulting deficit/functional limitation in visual acuity, he uses a hand-held magnifying glass to read text and a monocular telescope to read distant objects. He has his own computer and understands the basic computer operations. Bill wants to reduce the errors he makes in reading and increase the length of time that he is able to read without fatigue.

Vocational Rehabilitation Counselor	**Disability Services Counselor**
Objective: To establish the student in competitive employment. • What limitations does the disability pose for the student's employment? (ATS), (CP)	Objective: To assist the student to improve his academic standing and completion of required college course work. • Would assistive technology facilitate the student's capacity for longer study time? (ATS)

Career Services Counselor Objective: To provide career counseling based on the student's interests and abilities. • Would technology increase the student's career options and ability to perform the essential job functions in the career he has chosen? (VR), (ATS)	**Employment Recruiter** Objective: To interview and secure graduates for employment. • Would assistive technology qualify him for employment? (ATS), (VR)

Assistive Technology Solution
Bill was referred to an assistive technology specialist. Because he had a computer and had some usable vision, the specialist recommended the purchase and training for a speech synthesized screen reader with headphones. Duration and accuracy for reading were increased.

Deafness/Hearing Impairments

Over 20 million Americans have a hearing impairment of some type. A hearing impairment is any type or degree of auditory impairment while deafness is an inability to use hearing as a means of communication. Hearing loss may be sensorineural, which means one has difficulty in interpreting sounds; conductive, which means one has difficulty in hearing sounds; or a mixed impairment, involving both sensorineural and conductive. Hearing loss is measured in decibels and may be mild, moderate, or profound. A person who is born with a hearing loss may have language deficiencies and exhibit poor vocabulary and syntax. Many students with hearing loss may use hearing aids and rely on lip reading. Others may require an interpreter.

Possible Deficits	→	Possible Technology Solutions
Inability to receive any information in auditory form		Text telephone Relay services for placing calls Computer-assisted access to text telephone Telephone answering machine with text telephone FAX communication Electronic mail Visual cues for auditory prompts Computer-aided transcription Signaling system Captioning systems Sign language training

Possible Deficits	→	Possible Technology Solutions
Inability to hear auditory information with background noise Inability to discriminate sounds of consonants in auditory information		FAX communication Electronic mail Headphones with jack Telephone amplifier Hearing aids Electronic amplification systems Assistive listening devices (ALD) Captioning systems Visual cues for auditory prompts Appropriate light for lip reading
Limited or poor speech		Grammar check software Spell check Word prediction programs Speech output voice box
Needs of daily living		Signaling systems convert sound to visible, tactile, or vibrating signals for: • doorbells • telephones • alarm clocks • baby signaler • smoke alarm Clip-on rear view driving mirror to increase peripheral viewing area
Inability to tolerate noise		Room acoustics that absorb sound Ear protection

Case Study of a Student With a Hearing Impairment

Capitalized initials in parenthesis refer to Specialists (page 27)
who may provide technology-related information, referrals, and/or sources of devices and equipment.

Jennifer is a junior who has a hearing impairment and wears hearing aids. She finds it difficult to communicate on the telephone, hear what others are saying over background noise, or to discriminate sounds of consonants in conversation. She is having trouble following class discussions, hearing the auditory prompts on her computer, and is concerned about meeting the communication requirements in her career choice.

Vocational Rehabilitation Counselor	**Disability Services Counselor**
Objective: To establish the student in competitive employment. • Could assistive technology improve her employment opportunities? (Au), (ATS), (CP)	Objective: To assist the student to improve her academic standing and completion of required college course work. • Would assistive technology facilitate her class participation, computer abilities, and communication difficulties? (ATS), (Au)

Career Services Counselor Objective: To provide career counseling based on the student's interests and abilities. • Would technology increase her career options by improving her communication abilities? (Au), (VR), (ATS)	**Employment Recruiter** Objective: To interview and secure graduates for employment. • Would assistive technology improve her qualifications for employment? (ATS), (Au)

Assistive Technology Solution

Jennifer received a new evaluation by an audiologist and was fitted with hearing aids that are designed to reduce background noise. She was referred to an assistive technology specialist who recommended visual cues for auditory prompts on her computer. She also purchased a telephone amplifier with variable volume control. In her classes she is using assistive listening devices to aid in discussions and lectures. With these aids Jennifer's grades have improved and she is more confident about pursuing her career choice.

Learning Disabilities (LD)

It is estimated that between 15-20 percent of Americans have some type of learning disability. A learning disability is a permanent neurological disorder that affects the manner in which information is received, organized, remembered, and then retrieved or expressed. Students with learning disabilities possess average to above average intelligence. The disability is demonstrated by a significant discrepancy between expected and actual performance in one or more of the basic functions: memory, oral expression, listening comprehension, written expression, basic reading skills, reading comprehension, mathematical calculation, or mathematical reasoning.

Attention-Deficit Disorder (ADD)
Attention-Deficit Hyperactive Disorder (ADHD)

ADD and ADHD are neurologically-based medical problems characterized by inattention, impulsivity, and sometimes hyperactivity. The results can lead to lifelong problems.

Learning disabilities, ADD, and ADHD vary from one person to another and are often inconsistent within an individual. Students may demonstrate one or more problem characteristics and the form may be mild, moderate, or severe.

Possible Deficits	→	Possible Technology Solutions
Difficulty completing tasks on time		Computer software programs that promote organization of work: • color monitor/ability to change background and foreground colors • outline with shapes and colors • color printer

Possible Deficits	→	Possible Technology Solutions
Read at lower than potential level: • slow reading rate • inaccurate comprehension • poor retention • incomplete mastery of phonics		Computer software programs that promote reading abilities: • talking and large print word processors • scanner with optical character recognition (OCR) system • speech synthesizers • screen enlargement • multisensory reading program with customized text size, background and foreground colors, and voice characteristics Talking dictionary to define and pronounce unfamiliar words Four-track tape recorder
Poor tracking skills (skip words, lose place, miss lines)		Color monitor/change foreground and background color
Write at lower than potential level: • problems with organization, development of ideas and transition words • difficulty communicating meaning • poor sentence structure		Computer software programs that promote writing abilities: • color monitor/ability to change background and foreground colors • talking and large print word processors • outline with shapes and colors • graphics in place of words
Frequent spelling errors		Spell check Word prediction programs
Incorrect grammar		Grammar check software

Possible Deficits	→	Possible Technology Solutions
Problems with concentration		Distraction reducing measures: • noise blocking headset • table top dividers
Difficulty following directions		Directions in writing
Poor ability to speak with fluency and/or sometimes to understand others • difficulty understanding oral language • poor vocabulary and word recall • difficulty with pronouncing multisyllabic words		Computer software programs that promote verbal communication: • scanner with optical character recognition (OCR) system • speech synthesizers • talking and large print word processors Talking dictionary to define and pronounce unfamiliar words

Case Study of a Student With a Learning Disability and Attention-Deficit Disorder

Capitalized initials in parenthesis refer to Specialist (page 27) who may provide technology-related information, referrals, and/or sources of devices and equipment.

Ray is a junior with attention deficit disorder. He can only read for short periods of time and has poor comprehension and retention of the material. He depends on readers and tapes for reading assignments.

Vocational Rehabilitation Counselor Objective: To establish the student in competitive employment. • Could assistive technology improve his reading comprehension time and increase his opportunities for employment? (ATS), (LD), (ES), (T), (NP), (Psy)	**Disability Services Counselor** Objective: To assist the student to improve his academic standing and completion of required college course work. • Would assistive technology increase his independence from readers and promote his academic success? (ATS), (ES), (LD)
Career Services Counselor Objective: To provide career counseling based on the student's interests and abilities. • Would assistive technology increase his career options? (ATS), (LD)	**Employment Recruiter** Objective: To interview and secure graduates for employment. • Would assistive technology improve his qualifications for employment? (ATS), (VR)

Assistive Technology Solution

Ray was referred to an assistive technology specialist who recommended a multisensory reading program. Ray learned how to scan his reading material into a computer equipped with a voice synthesizer. He used an optical character recognition program to convert the printed page to computer text. This program permitted him to listen to written material, customize the text size, background and foreground color, and the voice characteristics. Using this technology, Ray has greatly increased his reading time and improved his comprehension.

Orthopedic/Mobility Impairments

A variety of orthopedic/mobility-related disabilities result from birth such as cerebral palsy, accidents such as spinal cord injury, or progressive neuromuscular diseases such as multiple sclerosis. These disabilities include conditions such as spina bifida, amputation, muscular dystrophy, cardiac conditions, cystic fibrosis, paralysis, polio/post polio, and stroke. Functional limitations and abilities vary widely even within one group of disabilities.

The environment of the college campus and many employment settings present a greater challenge for individuals with mobility impairments. More travel is necessary and longer periods of sitting are required. The revolution in wheelchair design in the past 10 years can provide proper seating, stability and ease of mobility that can avoid many problems common to wheelchair users.

Possible Deficits →	Possible Technology Solutions
Fatigue, limited physical exertion	Correct keyboard positioning, flexible equipment in positioning of monitors, keyboards, table tops
Slow typing speed	Word completion or word prediction programs Abbreviation expansion programs
Inability to use multiple keystroke commands Strike keys by mistake due to tremors Better gross motor than fine motor dexterity	Modification of keyboard control systems Keyguard for computer, calculator

Possible Deficits	→	Possible Technology Solutions
Inability to use hands for input		Computer with large hard drive and large capacity memory banks Alternate input devices such as voice recognition program, scanner, headpointer, mouth-operated joystick Page turning device
Limited hand use for input Inability to use the mouse		Alternate input devices such as minikeyboard, track pad, touch window, split keyboard, Morse code input, track ball
Fine motor control but limited gross movement		Arm, wrist supports; keyguards; minikeyboard
Limited muscle strength, coordination, range of motion, stability		Arm, wrist supports Keyguards
Poor posture and body alignment		Customized seating and positioning
Nonambulatory		Wheeled mobility
Limited mobility		Canes, crutches, walkers
Inability to access transportation		Adaptive devices such as hand controls, steering devices

Case Study of a Student With an Orthopedic/Mobility Impairment

Capitalized initials in parenthesis refer to Specialists (page 27)
who may provide technology-related information, referrals, and/or sources of devices and equipment.

Judy is a senior with a spinal cord injury and uses a power wheelchair for mobility. She plans to graduate in the spring with a degree in accounting. Good computer skills are important to Judy's career plans but she has difficulty operating input devices requiring fine motor control and pressing multiple keys at the same time.

Vocational Rehabilitation Counselor Objective: To establish the student in competitive employment. • What limitations does the disability pose for her employment? (OT), (ATS), (RE), (SM)	**Disability Services Counselor** Objective: To assist the student to improve her academic standing and completion of required college course work. • Would assistive technology facilitate her keyboard skills? (OT), (ATS), (VR), (RE), (SM)

Career Services Counselor Objective: To provide career counseling based on the student's interests and abilities. • Would technology increase her career options and ability to perform the essential job functions in the career she has chosen? (OT), (ATS), (RE), (SM)	**Employment Recruiter** Objective: To interview and secure graduates for employment. • Would assistive technology improve her qualifications for employment? (VR), (OT), (RE), (SM)

Assistive Technology Solution

Judy contacted an occupational therapist and received an evaluation and training on a software program that modifies the standard keyboard to eliminate the need to press more than one key at a time. The program she is using also limits her entering unwanted keys and has increased her speed and accuracy on the computer. Judy contacted vocational rehabilitation to assist her in the purchase of the software programs that were essential to her employment.

Speech and Language Disorders

Approximately 14 million persons in America have a speech, voice, or language disorder. Speech and language disorders may result from hearing loss, birth-related condition, learning disability, or physical conditions. The disorder may result in stuttering, problems with articulation, voice disorders, or aphasia. Individuals with severe speech and language disorders may be nonspeaking.

Augmentative and Alternative Communication (AAC) refers to aids, strategies and techniques designed to enhance a person's existing communication skills. These AAC systems may be simple displays (pictures or words printed on cardboard displays), electronic devices (voice output devices with synthesized or digitized speech) or computer based systems (voice output in addition to traditional computer functions). AAC systems can be adapted to provide for the special needs of the individual.

Possible Deficits	→	**Possible Technology Solutions**
Limited speaking ability		Augmentative devices such as: • picture communication displays • computer with synthesized or digitized speech • electronic communication aids: - alternative input methods; switch scanning, alternate keyboards, mouse, joystick, touch screen and/or headpointer - encoding methods; pictures, abbreviation expansion, and/or word prediction - output methods; print, synthesized and/or digitized speech
Limited motor skills to operate computer with standard keyboard		Communication device used to operate computer

Possible Deficits	→	Possible Technology Solutions
Limited muscle control of fine motor skills		Alternative input methods such as switch with scanning, alternate keyboards, joystick, touch screen, and/or headpointer
Limited muscle strength, coordination, range of motion, stability		Arm, wrist supports Keyguards
Limited use of hands to operate computer		Switches and switch software
Limited gross motor skills but use of fine motor skills to operate computer		Trackball tools to enter data or perform mouse functions
Slow speed in keystrokes		Word prediction programs
Limited loudness level		Voice amplification device
Hearing loss		Telecommunications Device for the Deaf (TDD) Relay services for placing calls
Inability to use telephone		Telecommunications Device for the Deaf (TDD) Relay services for placing calls

Case Study of a Student with a Speech and Language Disorder

Capitalized initials in parenthesis refer to Specialists (page 27)
who may provide technology-related information, referrals, and/or sources of devices and equipment.

Patricia has cerebral palsy and is unable to communicate orally in conversation. She has limited muscle control of her hands but can use one finger to input on a computer keyboard. Her communication needs have changed rapidly since she enrolled in college and began to make career decisions for future employment. Although Patricia understands clearly what others are saying, she is unable to express her thoughts adequately. She needs to be able to communicate effectively with others before making final career plans and entering the job search.

Vocational Rehabilitation Counselor Objective: To establish the student in competitive employment. • Could assistive technology increase her employment opportunities? (S/LP), (ATS)	**Disability Services Counselor** Objective: To assist the student to improve her academic standing and completion of required college course work. • Would assistive technology provide her with a functional communication system that will allow her to complete her college requirements? (S/LP), (VR)

Career Services Counselor Objective: To provide career counseling based on the student's interests and abilities. • Would technology increase her career options by improving her communication abilities? (S/LP), (VR)	**Employment Recruiter** Objective: To interview and secure graduates for employment. • Would assistive technology qualify her for employment by providing a functional communication system? (S/LP), (VR)

Assistive Technology Solution

Patricia was referred for an evaluation to a speech and language pathologist with special training in augmentative and alternative communication (AAC). It was determined that she needed a communication system with voice output and a system that would be portable to take to classes and use in a future employment setting. She also needed a system with print capabilities. She is now comfortable communicating with others and feels that she has greatly increased her career opportunities.

Other Disabilities

Many students have disabilities that do not necessarily fall into the major categories already discussed in this guide. The degree to which these disabilities affect individuals in the academic or employment setting vary widely. At times it is not the condition itself but the medication that is required to control symptoms that impairs academic or work performance. Common side effects of medications include fatigue, memory loss, shortened attention span, loss of concentration, and drowsiness. In some cases the degree of impairment may vary from time to time because of the nature of the disability or the medication. Some conditions are progressive; others may be stable. Many are invisible. A partial list of other disabilities includes: AIDS, arthritis, asthma, burns, cancer, cardiovascular disorders, diabetes mellitus, epilepsy, psychological disorders, and chronic pain.

Possible Deficits	→	Possible Technology Solutions
Limitations in other disabilities vary widely and may depend on whether the disability is temporary, progressive, or stabilized. Some limitations may be the result of medication necessary to control symptoms. Many functional losses may be similar to those listed elsewhere in this guide and may include: limitations in strength, standing, walking, tolerance to temperature change or extremes in temperature.		Assistive technology solutions may be the same as those listed elsewhere in this guide. Solutions would need to be disability specific based on the individual's abilities and needs. Solutions for problems related to side effects of medication may be found under some of the technology solutions for persons with learning disabilities. Solutions for limitations of strength and movement may be found under technology solutions for persons with mobility/orthopedic impairments.

Case Study of a Student With A Psychological Disability

Capitalized initials in parenthesis refer to Specialist (page 27)
who may provide technology-related information, referrals, and/or sources of devices and equipment.

Vic is a senior majoring in business. The side effects of his medication to control depression include: interference with concentration, diminished ability to attend to long lectures, and problems completing assignments on time. Vic needs to increase his concentration and duration of attentiveness. He also wants to become better organized and complete assignments in a timely manner.

Vocational Rehabilitation Counselor Objective: To establish the student in competitive employment. • Could assistive technology improve his employment opportunities? (ATS), (CP), (Psy)	**Disability Services Counselor** Objective: To assist the student to improve his academic standing. • Would assistive technology improve his ability to attend to class lectures, and complete assignments on time? (ATS), (Psy)
Career Services Counselor Objective: To provide career counseling based on the student's interests and abilities. • Would technology increase his career options by improving his organization skills? (VR), (ATS)	**Employment Recruiter** Objective: To interview and secure graduates for employment. • Would assistive technology improve his qualifications for employment? (ATS)

Assistive Technology Solution

Vic received an assistive technology evaluation and was trained to use a computer software program that assisted him to organize his work. With this program he created outlines of his materials using colors and shapes to increase interest and concentration, as well as to improve organization and timeliness of assignments. Vic hopes to transfer his specialized computer programs to the employment setting to assist him to be organized and produce his work on schedule.

Specialists

ATS Assistive Technology Specialists
Provides assistive technology evaluation and training

Au Audiologist
Evaluates and prescribes devices for hearing loss

CP Computer Programmer
Modifies existing programs, develops new programs, determines usefulness of programs

ES Educational Specialists
Assesses specific educational functional levels and learning preferences

LD Learning Disabilities Specialist
Assesses specific learning deficits and recommends accommodations

NP Neuro-psychologist
Assesses specific neurological issues that may impede learning or other cognitive functions

O/MS Orientation and Mobility Specialists
Assesses the ability of an individual to benefit from such techniques as navigation canes and companion animals for people who are blind

Or Orthotist
Fits devices that compensate for physical limitations of the spine and limbs

OT Occupational Therapist
Evaluates muscle control, assesses visual acuity, scanning perception, and fields; assesses seating

Phs Physiatrist
Specializes in physical and rehabilitative medicine

Phy Physician
Determines general health and prognosis

Pro Prosthetist
Fits devices that replace missing limbs or limb segments

Psy Psychologist
Evaluates learning potential and counseling needs

PT Physical Therapist
Evaluates physical strength and functioning

RE Rehabilitation Engineer
Evaluates, modifies, designs and fabricates customized devices

RT Recreational Therapist
Promotes recreational and leisure activities

S/LP Speech/Language Pathologist
Assesses communication abilities and recommends specialized aids

SM Seating and Mobility Specialist
Evaluates, modifies, designs and fabricates seating and mobility needs to improve function and lessen or prevent problems

SW Social Worker
Determines need for community resources

T Teacher: Special education, classroom teacher
Provides information on academic performance

VE Vocational Evaluator
Assesses potential for employment

VM Vehicle Modifier
Provides vehicle modifications and assesses person;s abilities to drive

VR Vocational Rehabilitation Counselor
Assesses employment potential and identification of career goals

Resources

Funding Agencies
This list represents a few agencies and programs that may assist with information or funding.

Medicaid
Federally sponsored state implemented medical insurance program for SSI or welfare recipients.

Medicare
Federal medical insurance program administered by Social Security.

Private Insurance
Determinations based on need, diagnosis, prognosis, and type of equipment.

CHAMPUS
Federal insurance program for military personnel families.

State Vocational Rehabilitation Services
Adaptive devices to enhance and promote employment.

State Education Services
Children ages 3-21 served by local school district.

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Electronic Communication
This list represents a few of the electronic mail resources for adaptive technology.

EASI: Equal Access to Software and Information
Provides information about developments and advancements within the adaptive computer technology field. To subscribe send an e-mail letter to
<EASI@SJUVM.STJOHNS.EDU>
with the command
SUB EASI and your name

Disability Student Services in Higher Education
Serves as a communication vehicle for those interested in the provision of services to college students with disabilities. To subscribe send an e-mail letter to
LISTSERV@UBVM.CC.BUFFALO.EDU
with the command
SUBSCRIBE DSSHE-L YOURFIRSTNAME YOURLASTNAME

Database

ABLEDATA
National database of assistive technology information on over 19,000 rehabilitation products available on disc or CD-ROM. For more information, call (800) 227-0216.

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Organizations
This list represents only a few of the many organizations that have an interest in technology and may provide information, referrals or services.

AHEAD Association on Higher Education and Disability
P. O. Box 21192
Columbus, OH 43221-0192
Phone: (614) 488-4972

IBM Independence Series
Information Center
1000 NW 51st Street
Boca Raton, FL 33432
Phone: (800) 426-4832
TT: (800) 426-4833

Job Accommodation Network (JAN)
WVU P. O. Box 6080
Morgantown, WV 26506
Phone: (304) 293-7186 or (800)526-7234

Closing the Gap Annual Resource Directory
Closing the Gap Newsletter
P. O. Box 68
Henderson, MN 56044
Phone: (612) 248-3294

RESNA
Rehabilitation Engineering and Assistive Technology
Society of North America
1700 N. Moore Street, Suite 1540
Arlington, VA 22209
Phone: (703) 524-6686
TTY: (703) 524-6639

Trace Research and Development Center
Waisman Center
1500 Highland Avenue
Madison, WI 53705
Phone: (608) 262-6966
TT: (608) 263-5408
Internet: info@trace.wisc.edu

WDSG
Worldwide Disability Solutions Group
Apple Computer, Inc.
1 Infinite Loop, MS 38-DS
Cupertino, CA 95014
Phone: (800) 600-7808
TT: (800) 755-0601
Internet: applewdsg@eusorld.com

State Tech Act Contacts

Grantees may change. If address is incorrect for the state, consult RESNA under Resources (page 30).

1. **Alabama** Statewide Technology Access and Response (Star) System for Alabamians with Disabilities
   2125 East South Boulevard
   P.O. Box 20752
   Montgomery, AL 36120-0752
   Phone: (334) 613-3480 TDD: (334) 613-2519

2. Asssistive Technologies of **Alaska**
   701 E. Tudor Road, Suite 280
   Anchorage, AK 99503-7445
   Phone: (907) 563-0138
   Internet: atadvr@corcom.com

3. **American Samoa** Assistive Technology Project
   Division of Vocational Rehabilitation
   Department of Human Resources
   Pago Pago, American Samoa 96799
   Phone: 0 11(684) 699-1529 0 11 (684) 233-7874

4. **Arkansas** ICAN (Increasing Capabilities Access Network)
   Department of Education
   Vocational and Technical Education Division
   Arkansas Rehabilitation Services
   2201 Brookwood Drive, Suite 117
   Little Rock, AR 72202
   Phone/TDD: (501) 666-8868
   Internet: 102503.3602@compuserve.com

5. **California** Assistive Technology Systems (CATS)
   California Department of Rehabilitation (Lead Agency)
   830 K Street
   Sacremento, CA 95814
   Phone: (916) 324-3062 TDD (916) 324-7386
   Internet: doroa.bpremo@hw1.cahwnet.gov

6. **Colorado** Assistive Technology Project
   Rocky Mountain Resource and Training Institute
   1391 N. Speer Boulevard, Suite 350
   Denver, CO 80204
   In state only (800) 255-3477 Phone: (303) 534-1027
   TDD: (303) 534-1063
   Internet: rmrti@essex.uchsc.edu

7. **Connecticut** Assistive Technology Project Bureau of Rehabilitation Services
   10 Griffen Road North
   Windsor, CT 06095
   Phone: (860) 298-2042 TDD: (860) 298-2018
   Internet: cttap@aol.com

8. **Delaware** Assistive Technology Initiative (DATI)
   Applied Science and Engineering Laboratories
   University of Delaware/A.I. duPont Institute
   P.O. Box 269
   Wilmington, DE 19899-02609
   Phone: (302) 651-6790 TDD: (302) 651-6793
   Internet: dati@asel.udel.edu

9. **District of Columbia** Partnership for Assistive Technology (DCPAT)
   801 Pennsylvania Avenue, S.E., Suite 210
   Washington, D.C. 20003
   Phone: (202) 546-9163 TDD: (202) 546-9168
   Internet: wap1@mhg.edu

10. **Florida** Alliance for Assistive Services and Technology (FAAST)
    2002-A Old St. Augustine Road
    Tallahassee, FL 32399-0696
    Phone/TDD: (904) 487-3278
    Internet: faast@freenet.scri.fsu.edu

11. **Georgia** Tools for Life
    Division of Rehabilitation Services
    2 Peachtree Street, NW Suite 23-411
    Atlanta, GA 30303-3142
    Phone: (404) 657-3084 TDD: (404) 657-3085
    Internet: 102476.1737@compuserve.com

12. **Guam** System for Assistive Technology
    University Affiliated Program-Developmental Disabilities
    House #12 Dean's Circle
    University of Guam
    UOG Station
    Mangilao, Gaum 96923
    Phone: (671) 734-9309/9472/6531
    TDD: (671) 734-8378
    Internet: uapservi@uog.edu

13. **Hawaii** Assistive Technology Training and Service (HATTS) Project
    677 Ala Moana Boulevard, Room 403
    Honolulu, HI 96813
    Phone/TDD: (808) 532-7110
    Internet: bfl@pixi.com

14. **Idaho** Assistive Technology Project
    129 West Third Street
    Moscow, ID 83843
    Phone: (208) 885-3559 TDD: (208) 885-3621

15. **Illinois** Assistive Technology Project
    528 S. 5th Street
    Suite 100
    Springfield, IL 62701
    Phone: (217) 522-7985 TDD: (217) 522-9966
    Internet: iatp@cencom.net

16. **Indiana** A.T.T.A.I.N. Project
    (Accessing Technology Through Awareness in Indiana)
    Indiana Family and Social Services Administration
    Division of Disability, Aging and Rehabilitative Services
    402 W. Washington Street, Room W453
    P.O. Box 7083
    Indianapolis, IN 46207-7083
    Phone/TDD: (800) 545-7763
    Internet:
    cris_fulford@inspeced.ccmail.compuserve.com

17. **Iowa** Program for Assistive Technology (IPAT)
lowa Universtiy Affiliated Program
University Hospital School
lowa City, IA 52242-1011
Phone Instate TDD: (800) 348-7193
Phone National Voice/TDD: (800) 331-3027
Internet: james-hardy@uiowa.edu

18. Assistive Technology for **Kansas** Project
2601 Gabriel
P.O. Box 738
Parsons, KS 67357
Phone: (316) 421-8367 TDD: (316) 421-0954
Internet: chuck@parsons.lsi.ukans.edu

19. **Kentucky** Assistive Technology Service (KATS) Network
P.O. Box 757
Frankfort, KY 40602-0757
Phone/TDD: (502) 564-2733
Internet: katsnet@iglou.com

20. **Louisana** Assistive Technology Access Network (LATAN)
P.O. Box 14115
Baton Rouge, LA 70898-4115
Phone: (504) 925-9500
Internet: latanstate@aol.com

21. **Maine** Consumer Information and Technology Training Exchange (CITE)
Maine CITE Coordinating Center
Education Network of Maine
46 University Drive
Augusta, ME 04330
Phone/TDD: (207) 621-3195
Internet: davidstodkford@dssdoc.ddp.state.

22. **Maryland** Technology Assistance Program (TAP)
Govenor's Office for Individuals with Disabilities
300 W. Lexington Street, Box 10
Baltimore, MD 21201
Phone/TDD: (410) 333-4975
Internet: mdtap@clark.net

23. **Massachusetts** Assistive Technology Partnership (MATP) MATP Center
Children's Hospital
1295 Boylston Street
Suite 310
Boston, MA 02215
Phone: (617) 355-7820 TDD: (617) 355-7301
Internet: brewer_ju@a1.tch.harvard.edu

24. **Michigan** TECH 2000 Project
Michigan's Assistive Technology Project
3815 West St. Joseph Hwy
Lansing, MI 48917-3623
Phone: (517) 334-6502 TDD: (517) 334-6499
Internet: twist@mrs.mjc.state.mi.us

25. **Minnesota** STAR Program
300 Centennial Building
658 Cedar Street
St. Paul, MN 55155
Phone: (612) 296-2771 TDD: (612) 296-9478
Internet: mnstars@gteens.com

26. **Mississippi** Project START
(Success Through Assistive/Rehabilitative Technology)
P.O. Box 1698
Jackson, MS 39215-1698
Phone/TDD: (601) 987-4872
In state only: (800) 852-8328
Internet: spower@netdoor.com

27. **Missouri** Assistive Technology Project
4731 South Cochise, Suite 114
Independence, MO 64055-6975
Phone : (816) 373-5193 TDD: (800) 647-8558
Internet: matpmo@qni.com

28. MonTECH Program
MUARID, The University of **Montana**
634 Eddy Avenue
Missoula, MT 59812
Phone: (406) 243-5676 TDD: (800) 732-0323
Internet: leech@selway.umt.edu

29. **Nebraska** Assistive Technology Project
301 Centennial Mall South
P.O. Box 94987
Lincoln, NE 68509-4987
Phone/TDD: (402) 471-0734
Internet: mschultz@nde.4nde.state.ne.us

30. **Nevada** Assistive Technology Collaborative
Rehabilitation Division
Community Based Services
711 South Stewart Street
Carson City, NV 89710
Phone: (702) 687-4452 TDD: (702) 687-3388
Internet: nvreach@gteens.com

31. **New Hampshire** Technology Partnership Project
Institute on Disability
#14, Ten Ferry Street
The Concord Center
Concord, NH 03301
Phone/TDD: (603) 224-0630
Internet: mjpawlek@christa.unh.edu

32. **New Jersey** Technology Assistive Resource Program (TARP)
135 East State Street
CN 938
Trenton, NJ 08625
Phone: (609) 292-7498 TDD: (800) 382-7765
Internet: njdvr@gteens.com

33. **New Mexico** Technology Assistance Program
435 St. Michael's Drive, Building D
Santa Fe, NM 87505
Phone/TDD: (505) 827-3532
Internet: nmdvrtap@aol.com

34. **New York** State TRAID Project
NYS Office of Advocate for Persons with Disabilities
One Empire State Plaza, Suite 1001
Albany, New York 12223-1150
Phone: (518) 474-2825 TDD: (518) 473-6005
Internet: d.buck@oapwd.state.ny.us

35. **North Carolina** Assistive Technology Project
Division of Vocational Rehabilitation Services
1110 Navaho Drive, Suite 101
Raleigh, NC 27609
Phone/TDD: (919) 850-2787
Internet: http://www2.coastalnet.com/~cn3106

36. **North Dakota** Interagency Program For Assistive Technology (IPAT)
P.O. Box 743
Cavalier, ND 58220
Phone/TDD: (701) 265-4807
Internet: leej@pioneer.state.nd.us

37. Commonwealth of the **Northern Mariana Islands**
Assistive Technology Project
Govenor's Developmental Disabilities Council
P.O. Box 2565
Saipan, MP 96950
Phone/TDD: (670) 322-3014
Internet: dd.council@saipan.com

38. **Ohio** T.R.A.I.N.
Ohio Super Computer Center
1224 Kinnear Road
Columbus, OH 43212
Phone/TDD: (614) 292-2426
Internet: dhuntt@mailcar.ovl.osc.edu

39. **Oklahoma** ABLE Tech
Oklahoma State University Wellness Center
1514 W. Hall of Fame Road
Stillwater, OK 74078-0618
Phone: (405) 744-9478 TDD: (800) 257-1705
Internet: mljwell@okway.okstate.edu

40. **Oregon** Technology Access Through Life Needs (TALN) Project
Access Technologies Inc.
1257 Ferry Street, S.E.
Salem, OR 97310
Phone/TDD: (503) 361-1201
Internet: ati@orednct.org

41. **Pennsylvania**'s Institute on Assistive Technology (PIAT)
Institute on Disabilitites/UAP
Ritter Annex 433 (004-00)
Temple University
Philadelphia, PA 19122
Phone/TDD: (800) 750-7428
Internet: piat@astro.ocis.temple.edu

42. **Puerto Rico** Assistive Technology Project
University of Puerto Rico, Medical Sciences Campus
College of Related Health Professions
Department of Communicological Disorders
Box 365067
San Juan, PR 00936
Phone in Puerto Rico: (800) 981-6033
Phone from U.S.: (800) 496-6035
TDD: (809) 754-8034
Internet: pratp@rcmad.upr.clu.edu

43. **Rhode Island** Assistive Technolgy Access Project (ATAP)
Office of Rehabilitation Services
40 Fountain Street
Providence, RI 02903-1898
Phone: (401) 421-7005 Instate only: (800) 752-8008
TDD: (401) 421-7016
Internet: ab195@osfn.rhilinet.gov

44. **South Carolina** Assistive Technology Project
Department of Vocational Rehabilitation (Lead Agency)
Post Office Box 15
1410-C Boston Avenue
West Columbia, SC 29171-0015
Phone/TDD: (803) 822-5404
Internet: scatp@scsn.net

45. **South Dakota** Link
1925 Plaza Boulevard
Rapid City, SD 57702
Phone/TDD: (605) 394-1876
Internet: rreed@sdtie.sdserv.org

46. **Tennessee** Technology Access Project
710 James Robertson Parkway
Gateway Plaza, 11th Floor
Nashville, TN 37243-0675
Phone: (615) 532-6530 In-state only: (800) 732-5059
TDD: (615) 532-6612
Internet: akoshakj@mail.state.tn.us

47. **Texas** Assistive Technology Partnership
The University of Texas at Austin
Department of Special Education
EDB 306/35300
Austin, TX 78712-1290
Phone: (800) 828-7839 TDD: (512) 471-1844
Internet: johnz@utxvms.cc.utexas.edu

48. U.S. **Virgin Island** Technology-Related Assistance for Individuals with Disabilities (TRAID)
#2 John Brewers Bay
St. Thomas, U.S. VI 00802-0990
Phone: (809) 693-1323
Internet: yhabtey@gecko.uvi.edu

49. **Utah** Assistive Technology Program
Utah State University
Center for Persons with Disabilities
UMC 6855
Logan, UT 84322-6855
Phone/TDD: (800) 333-8824
Internet: mmenlove@cc.usu.edu

50. **Vermont** Assistive Technology Project
103 South Main Street
Weeks Building, First Floor
Waterbury, VT 05671-2305
Phone/TDD: (802) 241-2620
Internet: mike@dad.state.vt.us

51. **Virginia** Assistive Technology System (VATS)
8004 Franklin Farms Drive
P.O. Box K-300
Richmond, VA 23288-0300
Phone/TDD: (804) 662-9990
Internet: vatskhk@aol.com

52. **Washington** Assistive Technology Alliance
DSHS/DVR
P.O. Box 45340
Olympia, WA 98504-5340
Phone: (206) 685-6836
Internet: debcook@u.washington.edu

53. **West Virginia** Assistive Technology System (WVATS)
University Affiliated Center for Developmental Disabilities
Airport Research and Office Park
955 Hartman Run Road
Morgantown, WV 26505
Phone: (304) 293-4692 TDD: (304) 293-4692
Internet: stewiat@wvnvm.wvnet.edu

54. **Wisconsin** Assistive Technology Program (WisTech)
Division of Vocational Rehabilitation
P.O. Box 7852
Madison, WI 53707-7852
Phone/TDD: (608) 243-5674
Internet: trampf@aol.com

55. **Wyoming**'s New Options in Technology (WYNOT)
Division of Vocational Rehabilitation
1100 Herschler Building
Cheyenne, WY 82002
Phone/TDD: (307) 777-7450
Internet: wy813@wydsprod.state.wy.us

Check List for Comprehensive Career Planning

Assistive Technology is a component in the comprehensive career planning process for college students with disabilities. The following checklist provides a guide for services that need to be included.

Does the student have adequate career decision making skills?

- Has the student researched possible majors by:
  - using the college catalog? ☐
  - interviewing an advisor? ☐
  - joining campus/community organization? ☐
- Has the student researched possible job preferences within the chosen major by:
  - conducting informational interview with a professional in the field of interest? ☐
  - reviewing career exploration books such as the DOT, OOH, GOE? ☐
- Has the student completed career exploration inventories including:
  - interest? ☐
  - personality? ☐
  - work values? ☐

Does the student have the skills and abilities necessary to qualify for the job?

- Does the student know the essential job functions in the chosen job preference? ☐
- Can the student perform the entry level requirements? ☐
- Does the student have computer skills? ☐
- Has the student had an assistive technology evaluation? ☐

Does the student need job accommodations to perform the essential functions?

- Has the student had access to necessary assistive technology? ☐
- Is the student aware of options for purchasing technology such as:
  - personal resources? ☐
  - Vocational Rehabilitation? ☐
  - service agencies? ☐
  - employer? ☐
  - other (insurance companies, Veteran's Administration)? ☐
- Does the student know how to ask for job accommodations? ☐

Does the student have adequate job search skills?

- Does the student have a current, professional resume? ☐
- Does the student know how to write a cover letter that introduces his/her skills? ☐
- Does the student have disability disclosure skills? ☐
- Does the student have interview skills? ☐
- Is the student aware of the importance of personal appearance? ☐
- Does the student know where to find job leads? ☐
- Is the student familiar with legislative acts designed to provide an equal employment opportunity? ☐

Definition of Terms

Abbreviation expansion program - a series of letters, words, or sentences are assigned to one or more keystrokes

Alternate keyboards - provide a variety of ways to input information into a computer

Assistive listening devices (ALD) - amplify sound by focusing microphone on the speaker in public situations

Audio signals, tones - transmit a signal that can be heard to direct the path of traveler (usually in public places like train stations)

Augmentative and Alternative Communication (AAC) - aids, strategies, and techniques designed to enhance a person's existing communication skills

Braille - a system developed by Louis Braille using tactile, raised dots as symbols for printed material

Braille notetaker - small battery operated device with a braille keyboard to enter information

Braille printer - specialized printer for printing out documents in braille

Braillied signage - room, floor, or building namesigns embossed with braille letters as directional cues for people who are blind

Calculator (talking) - device that speaks numbers as they are entered and speaks the mathematical answer

Captioning systems - provide text messages of dialogue on video screen

Closed circuit television (CCTV) - scans the printed page with a special television camera and transfers the enlarged image to a computer monitor

Computer aided transcription - utilizes a personal computer, large display monitor and word-processing software to increase accessibility to public meetings

Computer-assisted access to text telephone - personal computer adapted to talk with a text telephone

Digitized speech - digitally recorded human speech for auditory output

Electronic amplification systems - contain a microphone, amplifier, and speaker used to increase access to communication

Electronic travel aids - transmit a signal that is bounced back from objects in the path of the traveler or may be a wide angle, high intensity light beam

Enlarged text - hardware or software that provides magnification of characters on the computer screen or in printed output

Four-track tape recorder - allows the user to adjust the speed

Grammar and spell checkers - show grammatical or spelling errors and offer suggestions to correct

Headpointer - headset and assistive software that replaces the keyboard and mouse to allow a person to control the computer by pointing at a scanning keyboard

Keyguard - a hard plastic cover with holes for each key designed to prevent the user from striking the wrong key

Large print software - specialized computer software that captures text entered on keyboard and increase the letter size on the screen

Minikeyboard - small keyboard that allows a person with limited range of motion in hands and arms to control the mouse and type on a computer

Modification of keyboard control system - software programs that modify the standard keyboard to simplify operation of the keyboard or replace the mouse

Morse code input - uses a switch to connect to an adapter that translates dots and dashes into standard keyboard signals

Mouth operated joystick - allows a person to enter data or text using an on-screen keyboard

Multisensory reading program - allows the user to customize the text size, background and foreground colors on the monitor and the voice characteristics

Optical character recognition (OCR) - software works with a scanner to convert printed material into a standard computer file

Reading comprehension programs - assist the user to improve reading skills

Refreshable braille displays - an external device that allows information on computer screen to be displayed in braille and to change as the user moves the cursor or display window around the screen

Relay services - relay bureaus place calls to persons who do not have a text telephone

Scanner - converts text from an image from a printed page to a computer file

Screen enlargement - focuses on a portion of the screen and enlarges it

Screen reader - software/hardware applications that convert computer generated text to artificial speech which is spoken through speech synthesizers

Signaling systems - transform one type of signal to another to allow persons to live more independently

Speech output voice box - portable touch activated speech output communication aid

Speech synthesizer - receives information going to the screen (letters, words, numbers) and speaks them outloud

Split keyboard - an adjustable configuration of the keyboard

Switches and switch software - a variety of options to input data into a computer

Synthesized speech - speech captured by the speech synthesizer and spoken outloud

Tactile building, floor marking and maps - brightly colored or raised markings on surfaces to increase awareness of potential hazards for people who use long canes

Tape recorder with indexing capability - recorder which has special capability for making important text on an audio tape

Telecommunication Device for the Deaf (TDD) - a device that allows a person to transmit typed in messages by telephone

Telephone amplification systems - amplified telephone handsets attach to the phone

90 Text telephone - phone modem linked with a teletypewriter allows users to type conversations

Touch pad - a touch-sensitive device that allows computer input without the use of a keyboard

Touch window - a device placed on the computer window that allows the computer to respond to touch

Trackball - a moveable ball that replaces the mouse and allows easier cursor control

Voice recognition program - the voice of the user inputs data and controls the computer functions

Word prediction programs - permit the user to select a word from an on-screen list generated by the computer and based on the first 2 letters typed by the user

Writing guide - resembles a stencil cut out

Much of the assistive technology listed here refers to computer technology because computer skills are essential in professional employment today.

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The information contained in this guide was based on research with college students with disabilities conducted by:

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(Postsecondary Accommodations for Academic and Career Success)
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Mississippi State, MS 39762
and
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Mississippi State University
P. O. Box 9736
Mississippi State, MS 39762

Anne R. Thompson, Ph.D., CRC, Director
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Phone: (601) 325-7917
TDD Relay System: (800) 582-2233
FAX: (601) 325-3263
Internet: art1@ra.msstate.edu

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TDD Relay System: (800) 582-2233
FAX: (601) 325-3263
Internet: LBethea@ra.msstate.edu

Harry F. (Bud) Rizer, Ed.D., Director
Comprehensive Assistive Technology Center
Phone: (601) 325-1028
TDD: (601) 325-0520
FAX: (601) 325-0896
Internet: rizer@catc.msstate.edu
www.msstate.edu/dept/catc/

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